

REMARKS

Favorable reconsideration and allowance of the present patent application are respectfully requested in view of the following remarks. Claims 1-20 were pending prior to the Office Action. Claims 21-23 are added by this Reply. Therefore, claims 1-23 are pending. Claims 1, 12, and 19 are independent.

Rejection under 35 U.S.C. §112, second paragraph

Claims 6 and 7 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for lack of antecedent basis. Claim 6 has been amended to depend from claim 5 to address this issue. Applicant respectfully requests withdrawal of the rejection of claims 6 and 7 under 35 U.S.C. §112, second paragraph.

Rejection under 35 U.S.C. §103(a) based on Bulow and Cao

Claims 1-4, 9, 12-16, and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bulow (U.S. Patent No. 5,793,511) in view Cao (U.S. Patent No. 6,130,766). Applicant respectfully traverses.

For a rejection under 35 U.S.C. §103(a) to be valid, a *prima facie* case of obviousness must be established. See M.P.E.P. 2142. One requirement for establishing a *prima facie* case of obviousness is that the cited references, when combined, must teach or suggest

all claim limitations. See M.P.E.P. 2142; M.P.E.P. 706.02(j). Thus, if the cited art fails to teach or suggest one or more elements, the rejection is improper and must be withdrawn.

In this instance, independent claim 1 recites, in part, "a polarimeter optically coupled to the output of said polarization mode dispersion compensator". Independent claim 12 recites a similar feature. As will be shown, neither Bulow nor Cao may be relied upon to teach or suggest at least this feature.

It is noted that in the above-referenced claims, the output of the polarization mode dispersion compensator is also the output of the entire polarization mode dispersion compensating apparatus. With regard to Bulow, the output of the optical receiver, as shown in FIGS. 1 and 5, is the signal D from the output 1.10 of the equalizing circuit 1.2. However, it is noted that the signal D is not used in any feedback capacity to control the output of the optical receiver device. Thus, Bulow cannot be relied upon to teach or suggest the above-recited feature.

With regard to Cao, the principal state polarization tracking arrangement 10 outputs a signal from the optical amplifier 26. However, like Bulow, this output is not used for feedback control in any capacity. Applicant does note that Cao discloses a polarization beam splitter 24 outputting a signal to the optical amplifier 26, as well as outputting an optical signal feeding back to the DSP control

unit 30. However, the function of the polarization beam splitter 24 is to separate the two linearly polarized components of an optical signal from the polarization controller 22 and to direct one component to the optical amplifier 26 and the other component to the DSP control 30. As such, the optical signal used for feedback control is different from the optical signal output from the polarization tracking arrangement device. Therefore, Cao also fails to teach or suggest the above-recited feature.

As shown, if neither Bulow nor Cao may be relied upon to teach or suggest the above-recited feature, it then follows that the combination of Bulow and Cao may not be relied upon to teach or suggest at least the same above-recited feature.

In addition, it is clear that Bulow and Cao may not be combined. Bulow specifically states that equalization of the polarization mode dispersion takes place **exclusively in the electrical part** of the device. See column 3, lines 44-49. Cao, on the other hand, **optically** corrects for polarization mode dispersion optically. Cao states that the DSP control unit 30 generates a control signal to the polarization controller 22 to reorient and align the linearly polarized components of the received optical signals to the axes of the polarization beam splitter 24. Thus, to the extent that Bulow teaches equalizing exclusively in the electrical domain and Cao specifies that the principal mode

dispersion is corrected in the optical domain, the two references may not properly be combined. Therefore, for at least the above-stated reasons, independent claims 1 and 12 are distinguishable over the combination of Bulow and Cao.

Regarding independent claim 19, it is noted that the claim recites, in part, "a Q-detector operatively coupled to the output of said polarization mode dispersion compensator". Thus, for reasons similar to those stated with respect to claims 1 and 12, claim 19 is also distinguishable over the combination of Bulow and Cao.

Claims 2-4, 9, and 13-16 depend directly or indirectly from independent claims 1 and 12. Therefore, these dependent claims are also distinguishable over the combination of Bulow and Cao for at least the reasons stated with respect to independent claims 1 and 12.

Applicant respectfully requests withdrawal of the rejection of claims 1-4, 9, 12-16, and 19 under 35 U.S.C. §103(a) based on Bulow and Cao.

Rejection under 35 U.S.C. §103(a) based on Bulow, Cao, and Fishman

Claims 5-9, 17, 18, and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bulow in view of Cao and further in view of Fishman (U.S. Patent No. 5,930,414). Applicant respectfully traverses.

It has been shown that Bulow and Cao may not properly be combined, since they teach away from each other. Fishman has not been, and indeed cannot be, relied upon to correct at least this deficiency of Bulow and Cao. Therefore, a rejection based on the combination of Bulow, Cao, and Fishman is improper.

Applicant respectfully requests withdrawal of the rejection of claims 5-9, 17, 18, and 20 under 35 U.S.C. §103(a) based on Bulow, Cao, and Fishman.

Rejection under 35 U.S.C. §103(a) based on Bulow, Cao, and Bergano

Claims 10 and 11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bulow in view of Cao and further in view of Bergano (U.S. Patent No. 6,134,033). Applicant respectfully traverses.

It has been shown that Bulow and Cao may not properly be combined, since they teach away from each other. Bergano has not been, and indeed cannot be, relied upon to correct at least this deficiency of Bulow and Cao. Therefore, a rejection based on the combination of Bulow, Cao, and Bergano is improper.

Applicant respectfully requests withdrawal of the rejection of claims 10 and 11 under 35 U.S.C. §103(a) based on Bulow, Cao, and Bergano.

New Claims

By this Reply, claims 21-23 have been added. These claims depend from independent claims 1 and 12. Therefore, for at least due to their dependency from these independent claims, as well as on their own merits, the new claims are distinguishable over the cited references. Applicant respectfully requests that the newly added claims be allowed.

CONCLUSION

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance, and such allowance is earnestly solicited. However, should there be any outstanding matters that may be resolved by a telephone conference, the Examiner is invited to contact Hyung Sohn (Reg. No. 44,346) at 703-205-8000 in an effort to expedite prosecution.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

required under 37 C.F.R. §§1.16 or 1.17, particularly extension of
time fees.

Respectfully submitted,
BIRCH, STEWART, KOLASCH & BIRCH, LLP

By



Michael R. Cammarata
Reg. No. 39,491

4450-160P
MRC:HNS:rk

P. O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000